sclerosis, chronic enteritis, paresthesia, and increased knee-jerk. On post-mortem, small hemorrhages were found in the corpora quadrigemina and corpora striata. Microscopic examination showed changes such as have been described in the posterior columns, and, in addition, hemorrhages in both the white and gray matter, with degeneration in the anterior and lateral columns. The author combats the idea that the changes in the cord in pernicious anemia represent a combined system of disease, and looks on the changes of the gray matter as of chief importance.

The paper is illustrated with photo-micrographs, and a bibliography is included. VOGEL.

35. THE SPINAL CORD IN PERNICIOUS ANEMIA. Clarke (British Medical Journal, 1897, p. 325).

The author reports two cases. In the first, the patient being a woman of 46 years, the changes in the cord were substantially those hitherto described as occurring in pernicious anemia; i. e., degeneration of the posterior columns with some involvement of the lateral columns. The posterior column degeneration was very intense, included most of the columns of Goll and Burdach and extended from the highest to the lowest point of the cord. Lateral column changes were limited to the pyramidal tract of one side in the lower dorsal and upper lumbar regions; the direct cerebellar tract remained intact.

Changes in the second case, a man of 38, were decidedly exceptional, the degeneration of white matter being restricted to small symmetrical patches just external to the gray matter between the anterior and posterior horns. These areas were also limited in longitudinal extent, corresponding to about one cord segment. In the gray matter were marked changes which seemed to be contrary to the rule.

" The vessels were intensely injected, and there were many hemorrhages, varying in size, but all microscopic, into the grey matter. These hemorrhages were distributed chiefly about the central parts of the gray matter, posterior part of the anterior cornua and neighborhood of the commissure. Besides the hemorrhages there were in places small areas in which the gray matter was granular, partly disintegrated or sclerosed. The nuclei of the glia cells were either normal or slightly increased in number.

Certain of the nerve cells of the anterior cornua were swollen, opaque and homogenous, their nuclei obscured; others were highly granular and deeply pigmented, and a few appeared small and shrunken, but the large majority appeared normal. The walls of the small vessels were much thickened, and very many showed hyaline change. In places the anterior fissure was broadened by the distended arterial branches. The central canal was blocked. These changes in the gray matter were judged to be of fairly recent occurrence, and not of old standing, and were most marked in the upper dorsal region. No hemorrhages were noticed in the other organs post mortem."

PATRICK.

36. ANATOMISCHE UND EXPERIMENTELLE UNTERSUCHUNGEN ÜBER DIE RÜCKENMARKSVERÄNDERUNGEN BY ANÄMIE. (Anatomical and Experimental Studies in the Changes of the Spinal Cord in Anemia). G. V. Voss (Deutsches Archiv für klin. Med., 58, 1896, p. 489).

By the injection of such agents as pyrodin, glycerin, pyrogallol, and tolylendiamin, the author induced an artificial anemia, which, although not of the genuine pernicious form, still presented the following symptoms; diminished number of red blood cells, decreased amount of hemoglobin, poikilocytosis, fatty hemorrhage. Although the animals were maintained in this condition for some time, no typical lesion of the spinal cord could be discovered. The negative results reached inclined the author to the belief that the disease in man is due to as yet unknown chemical poisons. Vogel.

37. Le Sclerosi Combinate del Midollo Spinale Nelle Anemie Perniciose. (Combined Sleroses of the Spinal Cord in Pernicious Anemia). G. Bastianelli (Bulletino della R. Accademica Medica di Roma, 22, 1896).

The author groups the observations that have been made on combined scleroses of the cord in pernicious anemia under two headings. The first class embraces those cases in which the anemia is the most prominent factor, and the nervous symptoms are slight, the disease running its course in a comparatively short time. The cord presents irregular lesions, situated principally in the posterior columns. Into the second class are put those forms in which the nervous manifestations are the predominating feature of the clinical picture, and the pernicious anemia is a supervening complication. Here the spinal lesions are the same as those found in other primary combined scleroses, and are quite in accord with the nervous symptoms. The author does not believe in a direct relation between the anemia and the spinal lesions, for the changes of the chord induced by anemia alone are simple swelling of neuroglia and nerve fibres and not a form of degeneration. The theory of Minnich that vascular lesions are capable of producing degeneration of the white matter of the cord, is not satisfactory, for similar conditions are present in other affections of the cord, and the author also found perfectly normal vessels in instances of this disease. The most likely explanation is the presence of some toxic agent capable of producing both diseases, and which the author believes frequently to be of interstitial origin. Vogel.

38. Des accidents nerveux observés dans l'anemie pernicieuse et leur pathogenie. (Nervous Lesions in Pernicious Anemia and their Pathology). Annales et Bulletin de la Société de Medicine de Gand, 1897, pp. 139-147.

This article contains a short resumé of the more recent work that has been done in pathological lines upon nervous tissues in this disease.

39. Contribution a l'etude des lesions medullaires dans l'anemie pernicieuse progressive protopathique et dans les l'anemies symptomatiques de l'adulte (Medullary Lesions in Pernicious Anæmia). E. LeNoble (Revue de Medicine, 1897, p. 425).

The author considers two cases of pernicous anæmia, the first occurring in a young man of twenty-six years of age, whose blood showed typical changes. The nervous symptoms were vertigo, tinnitus, ocular disturbances, frequent headaches, slight tremor of the hands, a marked hyperesthesia of the skin and greatly increased knee-jerks.

The pathological changes observed in the nervous tissues were old hemorrhages in the bulb, and disseminated and extensive hemorrhages in the cord. The second case was one of symptomatic secondary anæmia without any marked clinical disturbances. The pathological findings were negative. Jelliffe.